

REMARKS

Applicant requests the Examiner to reconsider and withdraw the objections to claims 1-16, and also the rejection under 35 U.S.C. § 112, second paragraph, of claims 3, 5, 14 and 16, in view of the above corrective amendments to the claims. Applicant has also made some minor editorial corrective amendments to the specification.

Even though Applicant does not acquiesce in the provisional obviousness-type double-patenting rejection of claims 11-14, Applicant, to overcome this rejection, files concurrently herewith a Terminal Disclaimer (with fee) relative to the copending application No. 10/717,476.

Claims 1 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nohara '749. Such a rejection requires that Nohara disclose, either expressly or inherently, each limitation of each of claims 1 and 6, or in other words that each of claims 1 and 6 be readable on Nohara's disclosure. Applicant respectfully submits that such is **not** the case here.

More specifically, each of the independent claims 1 and 6 (and also the independent claim 11) contains at least the following limitations which are not disclosed, either expressly or inherently, (or even suggested) in Nohara '749:

the mass portion top plate having a portion bonded to the mass portion upper end and a portion protruding toward each of the elastic support arms from the bonded portion of the mass portion top plate, so that a cross section of the mass portion top plate on a boundary between the bonded portion and the protruding portion is larger than a cross section connecting the protruding portion to the elastic support arm; and

the frame top plate having a portion bonded to the frame upper end and a portion protruding toward each of the elastic support arms from the bonded portion of the frame top plate, so

that a cross section of the frame top plate on a boundary between the bonded portion and the protruding portion is larger than a cross section connecting the protruding portion to the elastic support arm.

Furthermore, in the Examiner's comment in the first paragraph on page 5 of the Office Action, the Examiner does **not even assert** that Nohara discloses, either expressly or inherently, the above two quoted claim limitations.

Moreover, in order to enhance the strength of the "elastic support arms", Applicant's claimed invention provides an acceleration sensor in which a (vertical) "cross-section of the mass portion top plate between the bonded portion and the protruding portion is larger than a [vertical] cross-section connecting the protruding portion to the elastic support arm". Since the bending moment or the stress produced by an applied acceleration mostly concentrates on a boundary between the bonded portion and the protruding portion of the top plate on the mass portion, the strengthened boundary between the bonded portion and the protruding portion can withstand the concentrated stress produced by the acceleration.

According to Nohara '749, the resilient member ("top plate" in the present invention) has a bonded portion and a protruding portion on the weight ("mass portion"), but the cross-section connecting the protruding portion to the elastic support arm is larger than a cross-section of the resilient member ("top plate") between the bonded portion and the protruding portion.

By **contrast**, the present invention (see independent claims 1, 6 and 11) requires that "a cross section of the mass portion top plate between the bonded portion and the protruding portion is larger than a cross section connecting the protruding portion to the elastic support arm".

Thus, the claimed invention is **opposite** to Nohara's structure. See the enclosed annotated copy of Nohara's Fig. 11 showing this difference in structures.

Therefore, Applicant respectfully submits that Nohara '749 is **incapable** of "anticipating" claims 1 and 6 (and also independent claim 11), whereby Applicant respectfully requests the Examiner to reconsider and withdraw the rejection under 35 U.S.C. § 102(b) or else point out exactly how each of claims 1 and 6 is readable on Nohara's disclosure. (Applicant has reviewed the cited passage (column 9, line 8 to column 10, line 9) and drawing (Figs. 10A-10C) of Nohara, but does not find any disclosure of these two quoted claim limitations.)

Applicant also respectfully traverses the rejection of claims 2-5 and 7-16 under 35 U.S.C. § 103(a) as being unpatentable over Nohara '749 in view of Nakatani '735 and (JP '005 - Miyano).

Such a rejection means that, in the Examiner's opinion, the subject matter of each of claims 2-5 and 7-16 would have been **obvious** (to a person of ordinary skill in the relevant art) from the combined disclosures of these three cited references. Applicant respectfully submits that the Examiner has **not** made out a case of *prima facie* obviousness of these claims.

More specifically, and as explained above, Nohara does not disclose, either expressly or inherently, or even suggest at least the two above-quoted limitations of the independent claims 1, 6 and 11, and the Examiner does not even assert that Nakatani '735 and/or JP '005 discloses or suggests these quoted limitations.

With respect to the grooves recited in Applicant's claims 2, 7 and 13, although **Nakatani '735** shows vertical grooves **filled** with conductive paste, the acceleration sensor of **Applicant's**

invention has lateral grooves 72 (see paragraph [0052]), 272 (see paragraph [0068]) on the side surfaces of the mass portion, and lateral grooves 74 (see paragraph [0053]), 274 (see paragraph [0068]). The lateral grooves are **empty** to form eaves of the protruding portions from the bonded portions on them.

Claims 2, 7 and 13 require "a groove provided on a side surface of the mass portion...along the mass portion top plate", and "a second groove provided on an inner side surface of the frame...along the frame top plate". These recitations mean that the grooves are parallel to the mass portion top plate or to the frame top plate, that is, they are lateral. These grooves prevent impact or acceleration on the mass portion from directly acting on the elastic support arms, which are very thin, and release stress on the elastic support arms. The grooves in claims 2, 7 and 13 cooperate with the enlarged cross section at roots of the protruding portions of the top plate in claims 1, 6 and 11 to enhance the strength of the elastic support arms. Applicant has added **new dependent claims 17-19** which explicitly recite these groove orientations which are already implicitly recited in the parent claims 2, 7 and 13, respectively.

Thus, since the three-way combination of Nohara, Nakatani and JP '005 does not disclose or even remotely suggest all of the limitations of claims 2-5 and 7-16, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection under 35 U.S.C. § 103(a). Furthermore, even if a person, for some unknown reason and in some unknown manner, were to combine the disclosures of these three references, there would not be produced the subject matter of any of these claims 2-5 and 7-16. That is, even if Nakatani's grooves and/or Miyano's paste (6, 11, 10) were employed in Nohara's structure, there would not be produced the subject matter

of any of claims 2-5 and 7-16, or subject matter which would have rendered obvious any of the claims.

Therefore, since the Examiner has not made out a *prima facie* case of obviousness of claims 2-5 and 7-16, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of these claims under 35 U.S.C. § 103(a).

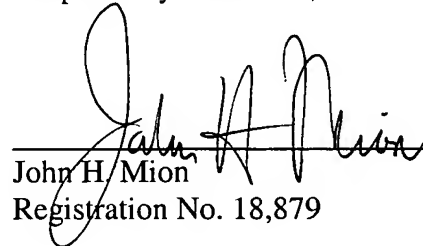
In summary, then, Applicant respectfully requests the Examiner to reconsider and withdraw all objections and rejections, and to find the application to be in condition for allowance with all of claims 1-16 **and 17-19**; however, if for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to **call the undersigned attorney** to discuss any unresolved issues and to expedite the disposition of the application.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this application, and any required fee for such extension is to be charged to Deposit Account No. 19-4880. The Commissioner is also authorized to charge any additional fees

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. APPLN. NO. 10/733,643

under 37 C.F.R. § 1.16 and/or § 1.17 necessary to keep this application pending in the Patent and
Trademark Office or credit any overpayment to said Deposit Account No. 19-4880.

Respectfully submitted,



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